

Pictures taken of a Flow-Through Filter (FTF) during the Diesel Emissions Reduction Project.

Waterfront Drive, East Providence



successstories

Success Story #4

Mobile Source Pollution Reduction

Clean Construction—Diesel Retrofit Program

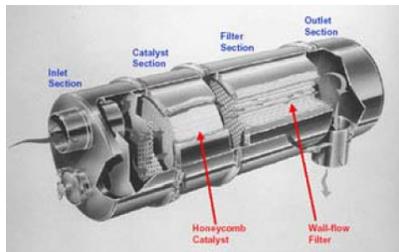


While diesel engines are in every corner of society, from moving goods across the nation or helping to construct buildings and build roads we travel on, they also have the disadvantage of emitting significant amounts of air pollution that adversely impact human health and environment. Because of the lack of emission control regulations for non-road diesel construction equipment until 1996, diesel engines used in construction equipment are more polluting than those used for on-road applications. Realizing the tremendous public health benefits from cleaning up existing diesel construction equipment, the State of Rhode Island implemented the *Diesel Retrofit Program* to retrofit existing diesel construction equipment with diesel emission control technologies.

On June 10, 2010, the Rhode Island General Assembly passed one of the most comprehensive clean construction regulations in the nation.

The House and the Senate passed the clean construction law as part of the state's Diesel Emissions Reduction Act. The Act required heavy-duty vehicles contracted on behalf of the state with federal monies to be equipped with pollution control devices, adhere to the state anti-idling law, limiting idling to 5 minutes; and be fueled with cleaner burning ultra-low sulfur diesel fuel (ULSD).

The three types of technologies that are installed and utilized in the Diesel Emissions Reduction Project are also the three most common currently in use: diesel oxidation catalysts (DOCs), flow-through filters (FTFs), and diesel particulate filters (DPFs).



A Diesel Particulate Filter can reduce diesel soot by more than 90% from many engines

Diesel Particulate Filters offer the highest emission reduction of all of the common diesel emission retrofit devices. Along with the increased reduction however, comes an increase in cost, physical size of the units, and installation complexity.

Implementation:

- ★ Emissions Control Requirement Laws [31-47.3-5](#)
- ★ Heavy-duty diesel vehicles used to perform federally funded state public works contracts must be powered by engines with Level 3 emissions control devices that are properly operated and maintained. (Level 3 devices will remove $\geq 85\%$ or ≤ 0.01 g/bhp-hr of particulate matter)

Resources:

Diesel Retrofit Device Technologies: <http://www.epa.gov/cleandiesel/technologies/retrofits.htm>

Diesel Emission Reduction in Construction Equipment Pilot Project: <http://ntl.bts.gov/lib/51000/51500/51514/S000118.pdf>